THE GUNONG BENOM EXPEDITION 1967

1. INTRODUCTION

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1. INTRODUCTION

By LORD MEDWAY

Apart from relatively narrow coastal plains of Quaternary or Recent alluvium on both flanks of the peninsula, the topography of Malaya (= West Malaysia) is generally hilly or mountainous. About 40 per cent of the total land area rises above the 500 ft contour, and 23 per cent above 1000 ft (Panton, 1965). The principal mountain formations occur as a series of approximately parallel ranges striking north-northwest/south-southeast (Fig. 1). The largest of these, generally called the Main Range, forms a continuous ridge extending from the border of Perak state with Thailand to southern Negri Sembilan. In its northern sector several peaks rise to over 7000 ft, the highest being Gunong Korbu (7160 ft). Further south the elevations attained become progressively lower. The highest mountain in Malaya, Gunong Tahan (7186 ft), is not part of the Main Range, but rises from rugged hill country further to the east in an isolated position on the border of the states of Pahang and Kelantan. Still further eastward an irregular group of lower mountains collectively form the Eastern Range (Fig. 1).

In the centre of the country between the Main Range and the Eastern Range, situated on the right bank of the River Pahang just south of 4°N, lies the compact montane formation named after its highest peak, Gunong Benom (6916 ft) (Plate 1). Here the total extent of connected highland terrain exceeding 3000 ft in elevation amounts to about 75 square miles. These uplands are separated from neighbouring areas of comparable elevation by intervening lowlands. Southwards, the Benom formation is limited by the extensive lowlands of central Pahang. To the west it is divided from the highlands of the Main Range, about 20 miles distant at the nearest point, by the valleys of two tributaries of the River Pahang, one south-flowing and the other north-flowing, between which the watershed lies a little below 500 ft elevation. To the north and east, lower and more extensive valleys of the River Pahang itself and its major tributaries intervene between highland elevations on Gunong Tahan, 47 miles distant, and the Eastern Range, 52 miles distant at the nearest point.

On its south-eastern quarter, a large segment of Gunong Benom extending from the lowlands to the peak is incorporated into the Kerau Game Reserve. Here, and in fact continuously over a much more extensive area of the mountain, the natural vegetation has survived inviolate and the native fauna has been largely protected from hunting and other human disturbance. Benom thus offers the rare opportunity to work in virgin forest along an altitudinal transect from the lowlands to a mountain peak that is among the highest in Malaya.

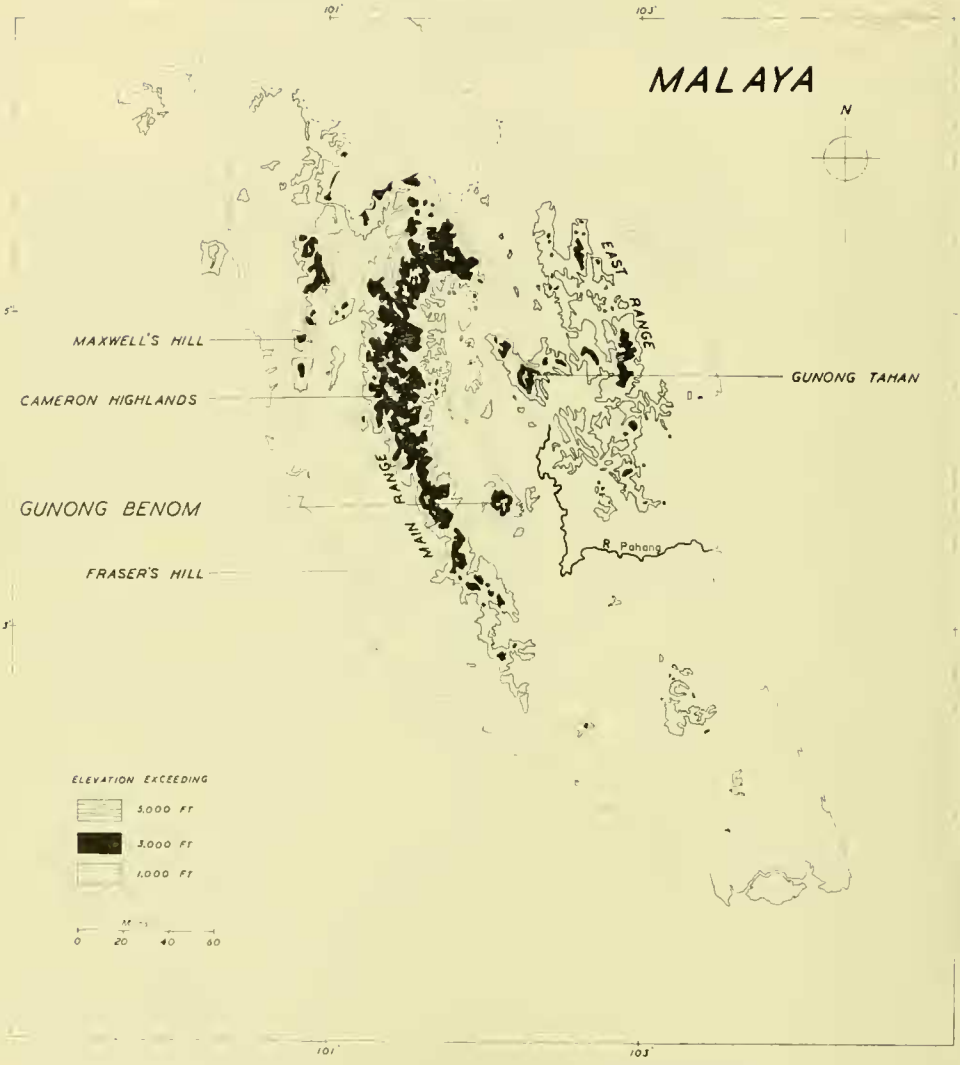


FIG. 1. Malaya (= West Malaysia), showing the principal mountain formations.

Accounts of earlier ascents of Benom have been published by Barnes (1903), Evans (1924), Henderson (1927), and Strugnell and Willbourn (1931). On some of these expeditions animals were collected, and the resultant specimens have been listed or described by several authors, *e.g.*, Chasen & Kloss (1928), Gibson-Hill (1949). Despite this, no previous expedition was primarily zoological in purpose. Accordingly, in early 1967, a trip was planned with the principal aim of establishing sites for zoological collection and observation along a transect from the base to the summit of the mountain.

The expedition proper was in the field from 1 February to 15 April 1967. Later return trips to the area were made by several participants resident in Malaysia, as detailed in individual reports (below). Teams from the following organizations participated: British Museum (Natural History), comprising Miss A. G. C. Grandison assisted by Miss F. V. Slade; University of Malaya, Department of Zoology, comprising Lord Medway, H. S. Yong, P. H. Soo, L. C. Ratnam, Miss S. E. Ang, Miss M. C. Leong and D. Labang; University of Malaya, Department of Parasitology, C. P. Ramachandran assisted by K. C. Lim and Poopala Chelvam; University of Malaya, Mosquitoes of Malaysia Project, O. Sulaiman and S. W. James; the Arbovirus Research Unit of the Hooper Foundation, University of California International Center for Medical Research and Training, N. J. Marchette, R. Garcia, and D. W. MacVean, assisted by J. Jeffery, H. Lee, Miss S. K. Teh, A. H. Ahmad, Nagiah Vangitasamy, S. W. Chan, T. K. Tee and R. de Silva; Institute for Medical Research, Kuala Lumpur, B. L. Lim and M. Nadchatram, assisted by P. Ramachandran, K. Krishnaswamy, A. Mottan, B. Ahmad, M. Sharif, W. Mohamed, R. S. Ratnam and I. Yusof; Forest Research Institute, Kepong, Selangor, T. C. Whitmore assisted by Chelliah, I. Rahim and Y. Zahir.

THE ENVIRONMENT

Base Camp was established just within the Kerau Game Reserve, on the bank of a south-flowing tributary of the River Kerau, at 102°11′25″E, 3°51′30″N, at 700 ft above sea level (Grid reference 097 667 on sheet 79, Malaya 1:63,360, series L7010). Access from the Damak-Ulu Cheka road was by an abandoned logging track. This track ran through State Forest Reserve, consisting of tall forest recently disturbed by selective commercial felling, which had been carried out as far as the camp site but had not extended across the stream (Plate 2).

From Base camp the route up the mountain followed the succession of ridges that form the north-east boundary of the Kerau Game Reserve (Fig. 2). Camps and collecting areas were established along this route at the following sites: camp 2 at grid reference 081 667, 1700 ft a.s.l. (Plate 3); camp 2½ at 063 666, 2500 ft; camp 3 at 055 661, 3500 ft; camp 4 at 035 653, 5000 ft; and camp 5 at 015 645, 5900 ft.

The parent rock of Gunong Benom itself is an intrusive hornblende-granite, with exposures of syenite, pyroxene-granite prophyry, and diorite (Scrivenor, 1931). On the north-east approach followed by the expedition, sedimentary rocks of Triassic

age, with some admixture of Quaternary volcanic effusives, extend to over 1000 ft (Alexander, 1965). At higher elevations, as far as is known, the geology of the mountain is relatively uniform and the main factors affecting the vegetation are therefore not geological but related to local variations in elevation, aspect and climate. The altitudinal zonation of the forest in which the expedition worked on the north-east slopes of Benom is described and discussed by Whitmore (1972).

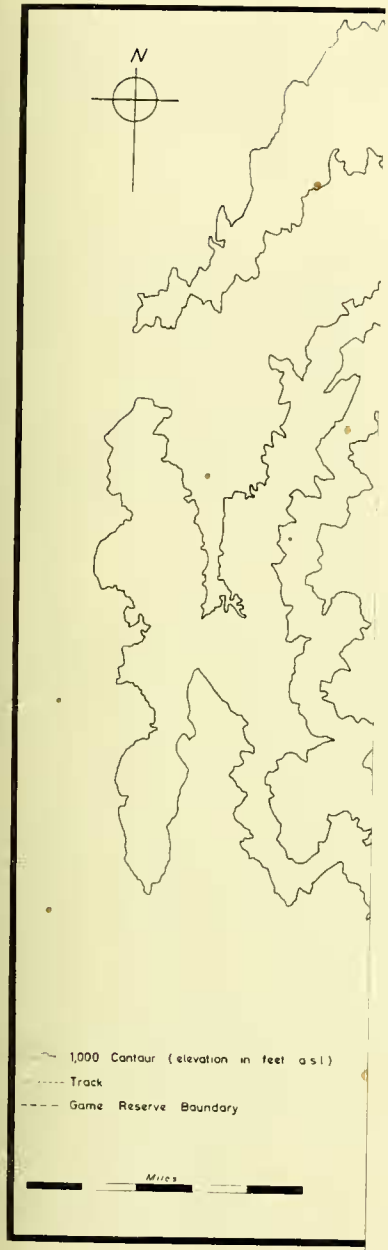
The route to camp 2 was a relatively easy slope following an abandoned logging track running between the trunks of standing forest giants on a broad ridge. Except after a lot of rain, it could be negotiated by Landrover, sometimes requiring the aid of chains.

From camp 2, the path immediately climbed steeply to a long undulating ridge at 2400–2500 ft. At the time of the expedition, logging had not extended above 2000 ft on this slope. Camp 2½ was sited at the further end of the ridge, at the foot of a second steep climb to 3500 ft and camp 3.

From camp 3 the track climbed by a series of narrow undulating ridges. Camp 4 was located on such a ridge, with unstable, boulder-strewn slopes dropping away precipitously on each side. Above about 3500 ft, many large granite boulders were exposed on the hillsides. Between these, the ground surface was very irregular and in many places damp tunnels and rock shelters were formed. Camp 5 was sited under the overhang of an exceptionally large boulder, at the north-western end of an extended ridge rising to 6300 ft. Beyond this ridge, the path dropped to below 6000 ft before climbing again to the summit ridge proper. The first peak on the summit ridge rose to 6760 ft. Between this peak and the true summit (6916 ft) the path wound round, up and down a series of subsidiary crests and knolls (Plate 4). On the summit itself a survey beacon had been erected. The surrounding vegetation had been felled and, at time of our visit, the regrowth had recently been cut back.

Climatically, Benom lies within the West Rainfall Region (Dale, 1959), at the northern extreme of the central south dry belt. The mean annual rainfall is inferred to be in the range 80–90 inches, distributed in two maxima (October/November and April) and two minima (July and February) each year. Rainfall records were not kept during the expedition, and nothing is known of local variations in precipitation on the mountain. During most of the month of March 1967, we experienced a spell of fine dry weather, which was probably not untypical. At higher elevations surface water was scarce, but streams flowing largely or completely underground were found up to 5750 ft.

Air temperatures were not recorded on Benom during the expedition, and there is no meteorological station on the mountain. The equatorial position of Malaya coupled with a generally humid climate prevent wide variations in surface temperature. Annual mean temperatures recorded at 58 stations in the lowlands fall within the range 77–83°F, and diurnal variations rarely exceed 22°F (Dale, 1963). At most stations there is a discernible pattern of seasonal variation in monthly mean temperature, but the annual range of this variation is small, not exceeding 3·8°F at lowland stations (4·1°F at Fraser's Hill). With increasing altitude there is a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1,000 Contour (elevation in feet a.s.l.)
Track
Game Reserve Boundary
Miles

Fig

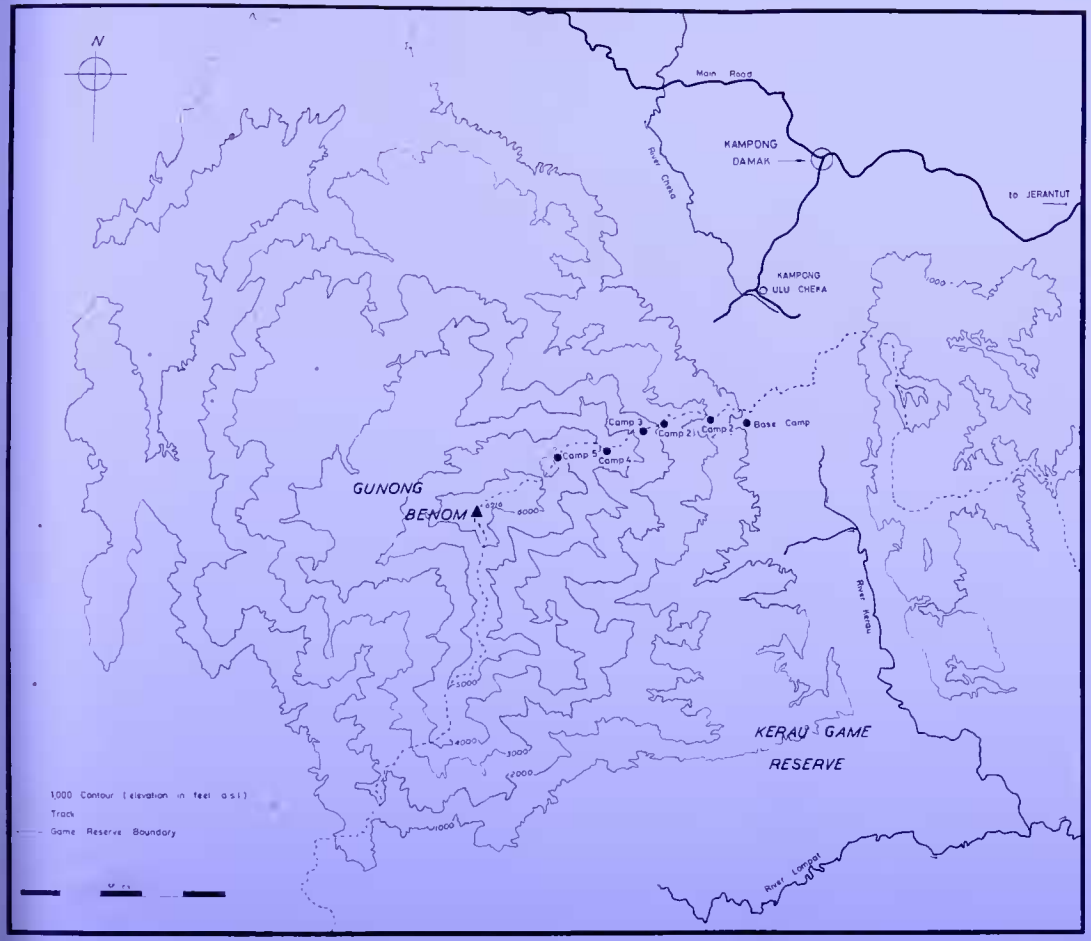

FIG. 2. Gunong Benom, showing the expedition camp sites and route of ascent.

regular decrease in temperature, but freezing level in the atmosphere, at 13,500–15,500 ft, is as high again as the highest mountain, so that very low temperatures nowhere occur (Dale, 1963). At most hill stations, the range of diurnal variation is low. Most members of the expedition felt distinctly cold at camp 5, and here and at camp 4 we burned fires at night for warmth.

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PLATE I

The Damak–Ulu Cheka road, with a distant view of Gunong Benom from the north-east.

PLATE 2

Base camp. Note the dense stand of *Mallotus paniculatus* and other secondary vegetation on the edge of the clearing.

PLATE 3

The site of camp 2 at 1700 ft. Very little disturbance of the natural vegetation had occurred

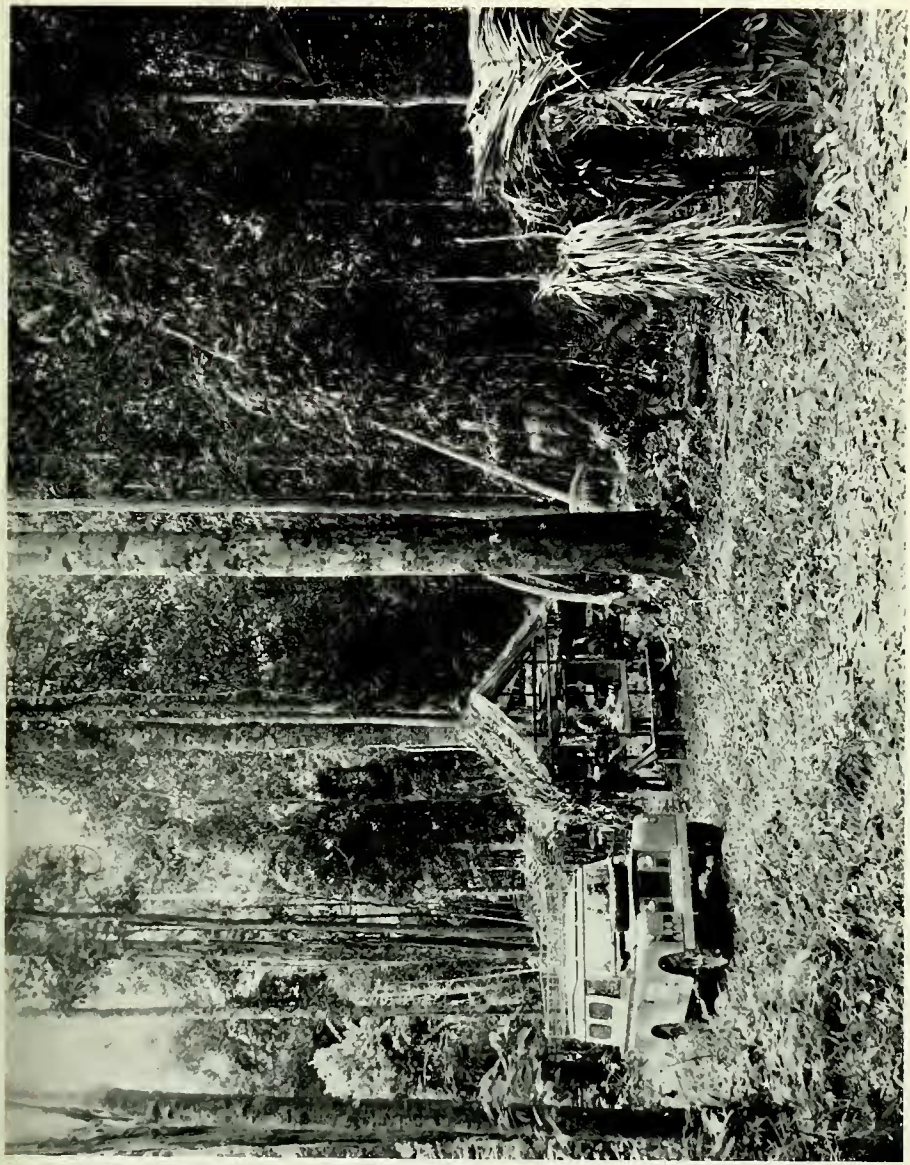

PLATE 4

The summit ridge of Gunong Benom, looking west-southwest from 6760 ft towards the true summit (centre background).